08-24-05

I hereby certify that this correspondence is being deposited with the U.S. Postal Ser-3ce as Express Mail, Airbill No. EV543594340US, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA \$2313-1450, on the date shown below.

Dated: August 22, 2005

gnature:

sed /A

JCO6 Rec'd PCT/PTO 22 AUG 2005

Docket No.: ASZD-P01-835 (PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Murray et al.

Application No.: 10/528974

Filed: March 23, 2005

For: PROCESS AND INTERMEDIATES FOR

THE PREPARATION OF THE THIENOPYRROLE DERIVATIVES

Confirmation No.: 1465

Art Unit: 1614

Examiner: Not Yet Assigned

## **INFORMATION DISCLOSURE STATEMENT (IDS)**

MS Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

Applicant has not submitted copies of each cited U.S. patent and U.S. patent application as required by 37 CFR 1.98(a)(2)(i), amended October 2004, as the U.S. Patent and Trademark Office has waived this requirement for all U.S. patent applications. Applicant submits herewith copies of foreign and non-patents in accordance with 37 CFR 1.98(a)(2).

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statemelik shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this

Application No.: 10/528974 Docket No.: ASZD-P01-835

Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 18-1945, under Order No. ASZD-P01-835.

Dated: August 22, 2005

Respectfully submitted,

David P. Halstead, Ph.D.

Registration No.: 44,735 FISH & NEAVE IP GROUP

**ROPES & GRAY LLP** 

One International Place

Boston, Massachusetts 02110-2624

(617) 951-7000

(617) 951-7050 (Fax)

Attorneys/Agents For Applicant

PTO/SB/08a/b (07-05)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/B/PTO

1

Sheet

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

(coo do many oncots do nocossary)

Complete if Known		
Application Number	10/528974	
Filing Date	March 23, 2005	
First Named Inventor	Paul Murray	
Art Unit	1614	
Examiner Name	Not Yet Assigned	
Attorney Docket Number	ASZD-P01-835	

	U.S. PATENT DOCUMENTS				
Examiner Initials*	Cite No.1	Document Number  Number-Kind Code <sup>2</sup> ( if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA*	US-2004/0048878-A1	03-11-2004	Cai et al.	
	AB*	US-2004/0220229-A1	11-04-2004	Bussolotti et al.	

3

		FOREIG	GN PATENT D	OCUMENTS		
Examiner	Cite	Foreign Patent Document	Publication Date	Name of Patentee or	Pages, Columns, Lines, Where Relevant Passages	
Initials*	No.1	Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	MM-DD-YYYY	Applicant of Cited Document	or Relevant Figures Appear	T⁵
	BA	EP-1088824 A2	04-04-2001			
	BB	EP-1136071 A3	03-26-2003			
	BC	WO-1994/18196 A1	08-18-1994			
	BD	WO-2001/28993 A2	04-26-2001			
	BE	WO-2002/06246 A1	01-24-2002			
	BF	WO-2002/20530 A1	03-14-2002			
	BG	WO-2003/074484 A1	09-12-2003			
	ВН	WO-2003/074485 A2	09-12-2003			
	BI	WO-2003/074513 A2	09-12-2003			
	BJ	WO-2003/074517 A1	09-12-2003			
	BK	WO-2003/074531 A1	09-12-2003			
	BL	WO-2003/074532 A1	09-12-2003	:		
	ВМ	WO-2003/091213 A1	11-06-2003			
	BN	WO-2004/041780 A2	05-21-2004			
	во	WO-2004/058715 A1	07-15-2004		Abstract only	
	BP	WO-2004/113345 A1	12-29-2004			

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. \* CITE NO.: Those application(s) which are marked with an single asterisk (\*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. ¹Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at <a href="www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

	NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>		
	CA	Adams et al., "4-Amino-4,5-dihydrothiophene-2-carboxylic acid," J. Org. Chem. 50:2730-2736 (1985)			
	СВ	Binder et al., "Eine einfache herstellungsmethode fur 2-aminothiophene," Synthesis Communications 4:255-256 (1977)			
	СС	Binder et al., "Thiopen als strukturelement physiologisch aktiver substanzen, 8. mitt. 1H5H-imidazo[1,2-a]thieno[3,4-d]pyrimidin-2(3H-one," Arch Pharm. 314:556-564 (1981)			
	CD	Bjork et al., "Improved syntheses of thieno[2,3-b]- and [3,2-b]-fused naphthyridines," J. Heterocyclic Chem. 32:751-754 (1995)			

		·
Examiner	Date	
Signature	Considered	

PTO/SB/08a/b (07-05)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE respond to a collection of information unless it contains a valid OMB control number.

Under the Paperwork Reduction Act of 1995, no persons are required to r

Substitute for form 1449A/B/PTO

## **INFORMATION DISCLOSURE** STATEMENT BY APPLICANT

(Use as many sheets as necessary)

3

_			
Sheet	2	of	

AUG 2 2 2005

Complete if Known		
Application Number	10/528974	
Filing Date	March 23, 2005	
First Named Inventor	Paul Murray	
Art Unit	1614	
Examiner Name	Not Yet Assigned	
Attorney Docket Number	ASZD-P01-835	

CE	Boger et al., "Total synthesis of distamycin A and 2640 analogues: A solution-phase combinatorial approach to the discovery of new, bioactive DNA binding agents and development of a rapid, high-throughput screen for determining relative DNA binding affinity or DNA binding sequence selectivity," J. Am. Chem. Soc. 122:6382-6394 (2000)
CF	Brugier et al., "α-Substitution of β-thienylcarbamates: alkylation, vinylation and Pd-catalyzed coupling reactions," Tetrahedron 56:2985-2993 (2000)
CG	Brugier et al., "Studies on the reactivity of N-(3-thienyl)carbamates," J. Chem. Soc., Perkin Trans. 1:37-43 (2001)
 СН	Brugier et al., "Synthesis and reactivity of alkyl (4-aminothien-3-yl)carbamates," Tetrahedron 53(30):10331-10344 (1997)
 CI	Brunnett et al., "Heterocyclic amines. IV. Urethan and urea derivatives of 3-aminothiophene (1)," J. Heterocyclic Chem. 5(3):417-418 (1968)
CJ	Carroll et al., "Competitive ortho metalation effects: the kinetic and thermodynamic lithiation of 3-(tert-Butoxycarbonyl)amino-4-caromethoxythiopene," Tetrahedron Letters 38(15):2637-2640 (1997)
СК	Eras et al., "Reactivity of theinopyrroles. synthesis of isomeric nitro and bromothienopyrroles,"  J. Heterocyclic Chem. 21:215-217 (1984)
 CL	Galvez et al., "Synthesis of isomeric β-haloethylthienopyrroles," J. heterocyclic Chem., 21, 393-395 (1984)
СМ	Galvez et al., "Synthesis of thiophenedicarbonyldiazides and Di-t-butyl thiophendicarbamates," J. Heterocyclic Chem. 23:1103-1108 (1986)
CN	Jones et al., "The vilsmeier reaction of fully conjugated carbocycles and heterocycles," Organic Reactions 49:1-39 (1997)
СО	Kobayashi et al., "Heterocyclic sulfonyl compounds and activated blood coagulation factor X (FXa) inhibitors containing them," Chemical Abstracts XP002267904 & JP 2001 294572 (2001)
СР	Linda et al., "The mechanism of the Vilsmeier-Haach reaction. Part III. Structural and solvent effects," J. Chem. Soc. Perkins Trans II, 1610-1612 (1974)
CQ	Marques et al., "Toward an understanding of the chemical etiology for DNA minor-groove recognition by polyamides," Helvetica Chimica acta 85:4485-4517 (2002)
CR	Martin et al., "Nucelar magnetic resonance investigations of carbonium ion intermediates. Part II. Exchange reactions in chloro-iminium salts (Vilsmeier-Haack reagents)," Journal Chem. Soc., Perkins Trans II 642-646 (1974)
cs	Martin et al., "Recherches sur la reaction de vilsmeier-haack etude du mecanisme de formation du complexe par des mesures cinetiques en resonance magnetique nucleaire," Tetrahedron Letters 58:5061-5064 (1970)
СТ	Meth-Cohn et al., "A versatile new synthesis of quinolines and related fused pyridines. Part II.," Tetrahedron Letters 33:3111-3114 (1979)
CU	Meth-Cohn et al., "A versatile new synthesis of quinolines and related fuses pyridines. Part 7. The conversion of acetamidothiophens into thienopyridines," Journal Chem. Soc., Perkins Trans. I 1531-1536 (1981)
CV	Meth-Cohn et al., "A versatile new synthesis of quinolines, thienopyridines and related fused pyridines," Tetrahedron Letters 23:2045-2048 (1978)
CW	Meth-Cohn et al., "The preparation and formylation of 2-acetamidothiophenes," Synthesis 2:133-135 (1980)
СХ	Nakamura, "Construction of heterocyclic compounds by use of alpha-diazaphosphonates: new one-pot syntheses of indoles and isocoumarines," Organic Letters 4(14)2317-2320 (2002)

	· <del></del>		
Examiner		Date	
Signature		Considered	

PTO/SB/08a/b (07-05)

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Complete if Known Substitute for form 1449A/B/PTO Application Number 10/528974 **INFORMATION DISCLOSURE** Filing Date March 23, 2005 STATEMENT BY APPLICANT First Named Inventor Paul Murray Art Unit 1614 (Use as many sheets as necessary) Examiner Name Not Yet Assigned 3 3 ASZD-P01-835 Sheet of Attorney Docket Number

CY	Rajanna et al., "Kinetics adn mechansim of vilemeier-haach synthesis of 3-formyl chromones derived from o-hydroxy aryl alkyl ketones: A structure reactivity study," Tetrahedron 52(10):3669-3682 (1996)	
CZ	Seela et al., "168. Synthesis of 2'-deoxyribofuranosides of 8-Aza-7-deazaguanine and related pyrazolo[3,4-d]pyrimidines," Helvetica Chimica Acta 69:1602-1613 (1986)	
CA1	Shinkwin et al., "Synthesis of thiophenecarboxamides, thieno[3,4-c]pyridin-4(5H)-ones and Thieno[3,4-d]pyrimidin-4(3H)-ones and preliminary evaluation as inhibitors of poly(ADP-ribose)polymerase (PARP)," Bioorganic & Medicinal Chemistry 7:297-308 (1999)	
CB1	Shvedov et al., ""2-Aminothieno '2,3-b]pyridine derivatives, Chemical Abstracts, XP002266826 & SU364613 (1973)	
CC1	Soth et al., "Recherches en serie heterocyclique. XXIX. Sur des voies d'acces a des thieno, selenolo, furo et pyrrolopyrroles," Canadian Journal of Chemistry 56(6):1429-1434 (1978)	
CD1	Stanetty et al., "Herbizide thienylharnstoffe, I," Monatshefte fur Chemie 120:53-63 (1989)	
CE1	Sugiyama et al., "Condensed thienopyrimidines. IV. Synthesis and gastric antisecretory activity of 2,3-dihydro-5H-oxazolothienopyrimidine derivatives," Chemical & Pharmaceutical Bulletin 37(10):2171-2722 (1989)	
CF1	Sugiyama et al., "Condensed thienopyrimidines. 5. Studies on the thermal cyclization of various ortho-formylthiophenecarbamates with ethanolamine," Heterocycles 29(7):1317-1323 (1989)	
CG1	Szabo et al, "Experimental and theoretical study of orientation in the nitration of dithieno[3,4-b:3',4'-d]pyridine," J. Organic Chem 56:1590-1596 (1991)	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant,

Examiner	Date
Signature	Considered

Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached.